

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A dual capacity compressor, comprising:

a power generating part including a reversible motor and a crank shaft inserted in the motor;

a compression part including a cylinder, a piston positioned in the cylinder, and a connecting rod connected to the piston;

a crank pin ~~in~~ provided at an upper part of the crank shaft, eccentric from an axis of the crank shaft;

an eccentric sleeve having an ~~inside~~ inner circumferential surface that is rotatably fitted ~~in~~ within an ~~outside~~ outer circumferential surface of the crank pin, and an ~~outside~~ outer circumferential surface that is rotatably fitted to an end of the connecting rod; and

a key member ~~configured such that the key member is held at at least a part of~~ engaged with a portion of the eccentric sleeve~~[[,]] and held at the eccentric sleeve additionally during operation, for latching~~ so as to couple the eccentric sleeve ~~with~~ and the crank pin ~~positively in all rotation directions of the motor[[,]] and thereby providing different~~ and provide for a plurality of compression capacities ~~by re-arranging the eccentric sleeve that changes based on an effective~~ amount of eccentricity and a piston displacement ~~follows~~ following a change of ~~an~~ direction of rotation of the motor, and ~~preventing~~ to prevent relative motion between the crank

pin and the eccentric sleeve during operation ~~by means of the key member actually~~ regardless of the direction of rotation of the motor, wherein the eccentric sleeve includes a balance weight that rotates with the eccentric sleeve so as to shift a center of gravity of the eccentric sleeve during rotation and maintain the engagement between the key member and the eccentric sleeve.

2. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the key member ~~catches~~ engages the eccentric sleeve at a plurality of points.

3. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the key member ~~catches~~ engages the eccentric sleeve at two points ~~set up with reference~~ aligned relative to a center line in any direction during operation.

4. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein a length of the key member ~~has a length is~~ greater than an outside diameter of the crank pin.

5. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the key member is continuously held ~~at~~ engaged with at least a part of the eccentric sleeve ~~relatively positioned on~~ in a radial direction ~~at an inner side~~ portion of the crank shaft.

6. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the key member includes~~[[;]]~~:

a first projection ~~for continuous projection beyond~~ that projects through the crank pin to an outer side of the crank pin by a first predetermined length[[,]]; and

a second projection ~~for projection beyond~~ that projects through the crank pin to an outer side of the crank pin by a second predetermined length only during operation.

7. (Currently Amended) The dual capacity compressor as claimed in claim 6, wherein the first projection is ~~projected~~ projects continuously in a radial direction ~~inner side~~ through the crank pin.

8. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the key member prevents rotation of the eccentric sleeve ~~coming from~~ due to a centrifugal force applied thereto, and a ~~consequential~~ corresponding rotational moment.

9. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the key member is continuously ~~held at~~ engaged with at least a part of the eccentric sleeve so that a rotational moment is generated at the eccentric sleeve in a direction opposite to the rotation direction of the crank shaft.

10. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the key member is continuously ~~held at~~ engaged with at least a part of the eccentric sleeve ~~relatively positioned on~~ in a radial direction at an outer side portion of the crank shaft.

11. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the key member includes[:]:

a first projection ~~for continuous projection beyond~~ that projects through the crank pin to an outer side of the crank pin[:]; and

a second projection ~~for continuous projection beyond~~ that projects through the crank pin to an outer side of the crank pin[:,] and ~~being held at~~ is engaged with the eccentric sleeve during operation of the compressor.

12. (Currently Amended) The dual capacity compressor as claimed in claim ~~1~~ 11, wherein the first projection is ~~projected toward~~ projects in a radial direction to the outer side of the crank shaft.

13. (Currently Amended) The dual capacity compressor as claimed in claim 11, wherein the second projection is ~~projected beyond~~ projects through the crank pin such that the second projection does not interfere with the eccentric sleeve when the compressor is stationary.

14. (Original) The dual capacity compressor as claimed in claim 11, wherein the second projection includes a channel for passing the eccentric sleeve when the compressor is stationary.

15. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the key member includes a stopper positioned in the crank pin ~~for limiting so as to limit~~ movement of the key member relative to the crank pin.

16. (Currently Amended) The dual capacity compressor as claimed in claim 15, wherein a contact surface of the stopper ~~has a contact surface to the crank pin formed to fit to an inside conforms to a corresponding inner~~ circumferential surface of the crank pin.

17. (Currently Amended) The dual capacity compressor as claimed in claim 15, wherein the stopper ~~is comprises~~ a first stopper ~~for limiting that limits~~ movement of the key member in ~~one~~ a first direction.

18. (Currently Amended) The dual capacity compressor as claimed in claim 17, wherein the stopper further ~~includes comprises~~ a second stopper ~~for limiting that limits~~ movement of the key member in ~~an opposite~~ a second direction that is opposite the first direction.

19. (Currently Amended) The dual capacity compressor as claimed in claim 15, wherein the key member further ~~includes comprises~~ an elastic member ~~for supporting the key member to project that supports continuous projection of~~ at least a part of the key member ~~beyond~~ through the crank pin ~~continuously~~ regardless of a state of operation of the compressor.

20. (Currently Amended) The dual capacity compressor as claimed in claim 19, wherein the elastic member limits movement of the key member in ~~one~~ a first direction.

21. (Currently Amended) The dual capacity compressor as claimed in claim 19, wherein the elastic member ~~has~~ provides a non-uniform elastic force.

22. (Currently Amended) The dual capacity compressor as claimed in claim 19, wherein ~~the elastic member has a part with an elastic force relatively~~ of a first part of the elastic member is greater than other part an elastic force of a second part of the elastic member.

23. (Currently Amended) The dual capacity compressor as claimed in claim 19, wherein a part of the elastic member has ~~a part with an elastic force~~ that is greater than a centrifugal force generated ~~at~~ by the key member.

24. (Currently Amended) The dual capacity compressor as claimed in claim 19, wherein the elastic member includes[[,]]:

a first elastic member ~~in contact with~~ that contacts the key member[[,]]; and

a second elastic member ~~in contact with~~ positioned between the first elastic member and ~~the inside~~ an inner circumferential surface of the crank pin ~~respectively, having wherein an~~ elastic force of the second elastic member is greater than that of the first elastic member.

25. (Currently Amended) The dual capacity compressor as claimed in claim 24, wherein the elastic force of the second elastic member ~~has an elastic force is~~ greater than the ~~a~~ centrifugal force generated ~~at~~ by the key member.

26. (Currently Amended) The dual capacity compressor as claimed in claim 24, wherein the first elastic member is a spring ~~with a predetermined~~ having a first diameter, and the second elastic member is a spring ~~continuous to~~ that extends from the first elastic member with ~~a~~ and that has a second diameter that is greater than the ~~first elastic member~~ diameter.

27. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the crank pin includes ~~one~~ a pair of key member fitting parts provided opposite to each other.

28. (Currently Amended) The dual capacity compressor as claimed in claim 27, wherein the key member fitting ~~part in the crank pin is a~~ parts comprise through ~~hole~~ holes formed in a wall of the crank pin.

29. (Currently Amended) The dual capacity compressor as claimed in claim 27, wherein the key member fitting ~~part in the crank pin includes~~ parts include at least one slot ~~extended~~ that extends from a top end of a wall of the crank pin to a predetermined position ~~of~~ in the wall.

30. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the eccentric sleeve includes[[,]]:

a track part formed along a direction of extension of a body thereof itself for enabling so ~~as to allow~~ rotation of the ~~projection~~ a projection of the key member[[,]] that projects through the crank pin; and

a limiting part ~~formed relative to~~ provided with the track part for ~~limiting to limit~~ rotation of the projection of the key member.

31. (Currently Amended) The dual capacity compressor as claimed in claim 30, wherein the track part of the eccentric sleeve ~~is~~ comprises a cut away part ~~starting that extends~~ from a top end of the eccentric sleeve to a ~~required~~ predetermined depth, ~~extended and~~ along a ~~circumference~~ circumferential direction of the eccentric sleeve.

32. (Currently Amended) The dual capacity compressor as claimed in claim 30, ~~wherein the steps~~ further comprising steps provided between the track part and the limiting part, wherein the steps are parallel to a plane containing both a longitudinal axis of the crank shaft and a longitudinal axis of the crank pin.

33. (Currently Amended) The dual capacity compressor as claimed in claim 30, further comprising steps provided between the track part and the limiting part, wherein the steps are spaced apart from a plane containing both a longitudinal axis of the crank shaft and a

longitudinal axis of the crank pin by a half of a thickness of the key member, ~~respectively.~~

34. (Currently Amended) The dual capacity compressor as claimed in claim 30, further comprising steps provided between the track part and the limiting part, wherein ~~the step at least one of the steps~~ is sloped at an angle from a plane containing both a longitudinal axis of the crank shaft and a longitudinal axis of the crank pin by a half of a thickness of the key member.

35. (Currently Amended) The dual capacity compressor as claimed in claim 1, wherein the eccentric sleeve ~~further~~ includes a ring member provided between a bottom surface of the eccentric sleeve and a top surface of the crank shaft.

36. (Canceled).

37. (Currently Amended) The dual capacity compressor as claimed in claim ~~36~~ 1, wherein the balance weight prevents rotation of the eccentric sleeve ~~by~~ due to a rotational moment.

38. (Currently Amended) The dual capacity compressor as claimed in claim ~~36~~ 1, wherein the balance weight prevents ~~the a~~ rotational moment from ~~generating~~ being generated at the eccentric sleeve.

39. (Currently Amended) The dual capacity compressor as claimed in claim-~~36~~1, wherein the balance weight positions ~~the~~a center of gravity of the eccentric sleeve on a plane containing both a longitudinal axis of the crank shaft and a longitudinal axis of the crank pin.

40. (Canceled).

41. (Currently Amended) The dual capacity compressor as claimed in claim-~~36~~1, wherein the balance weight generates ~~the~~a rotational moment in a direction that is opposite to ~~the~~a rotation direction.

42. (Currently Amended) The dual capacity compressor as claimed in claim-~~36~~1, wherein the balance weight shifts ~~the~~a center of gravity of the eccentric sleeve to an opposite position ~~opposite~~ with respect to a plane containing both a longitudinal axis of the crank shaft and a longitudinal axis of the crank pin.

43. (Currently Amended) The dual capacity compressor as claimed in claim-~~36~~1, wherein the balance weight is provided ~~to~~with a part of the eccentric sleeve having a relatively light weight.

44. (Currently Amended) The dual capacity compressor as claimed in claim-~~36~~1, wherein the balance weight is provided ~~to the~~with a track part of the eccentric sleeve.

45. (New) A dual capacity compressor, comprising:

a power generating part including a reversible motor and a crank shaft inserted in the motor;

a compression part including a cylinder, a piston positioned in the cylinder, and a connecting rod connected to the piston;

a crank pin provided at an upper part of the crank shaft, eccentric from an axis of the crank shaft;

an eccentric sleeve provided between an outer circumferential surface of the crank pin and an end of the connecting rod;

a key member engaged with the eccentric sleeve so as to couple the eccentric sleeve and the crank pin in all rotation directions of the motor; and

a balance weight that shifts a center of gravity of the eccentric sleeve to an opposite position with respect to a plane containing both a longitudinal axis of a crank shaft and a longitudinal axis of a crank pin as the eccentric sleeve rotates with the crank pin.